Compact, Ultrasensitive Formaldehyde Monitor, Phase II

Completed Technology Project (2009 - 2012)

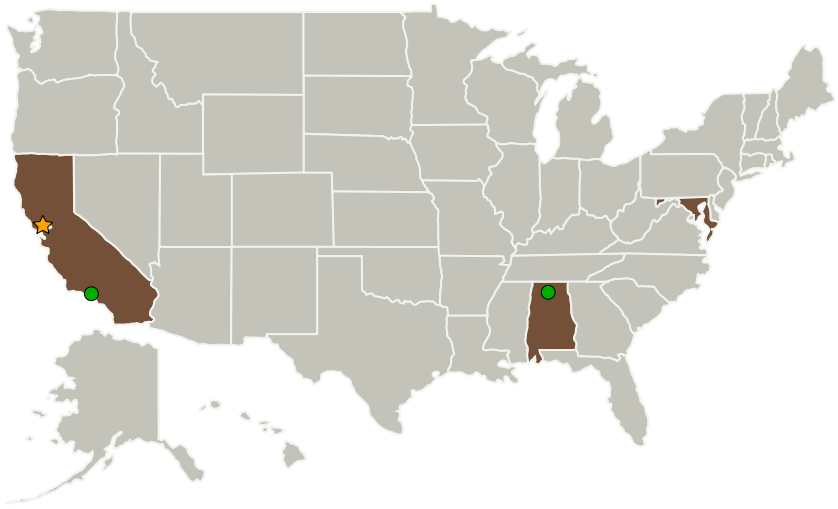
Project Introduction

The Small Business Innovative Research Phase II proposal seeks to develop a compact UV laser ?based sensor for Earth science and planetary atmosphere exploration. The device will be capable of measuring formaldehyde in real-time at ultra-trace levels.

Anticipated Benefits

NASA applications for the instrument described in this proposal include the interrogation of extraterrestrial atmospheres for trace species, as well as in the study of Earth's atmosphere and the monitoring of cabin air in crewed exploration vehicles. The described instrument will have potential applications in atmospheric chemistry and satellite validation performed on umanned aerial systems (UAS). The worldwide market for gas sensors with the capabilities of the proposed system is significant. Numerous potential applications can be found in trace gas monitoring, pollution monitoring, and industrial process control.

Primary U.S. Work Locations and Key Partners



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Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California
Marshall Space Flight Center(MSFC)	Supporting Organization	NASA Center	Huntsville, Alabama
Novawave Technologies	Supporting Organization	Industry	Redwood City, California

Primary U.S. Work Locations	
Alabama	California
Maryland	

Project Transitions

February 2009: Project Start

February 2012: Closed out

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Gary C Jahns

Principal Investigator:

Joshua Paul

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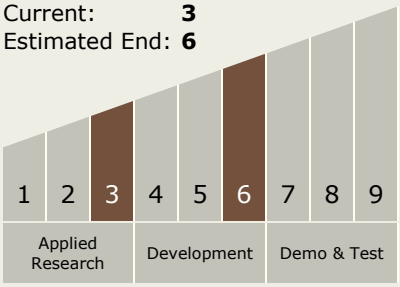
Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **6**



Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.5 Radiation
    - TX06.5.5 Monitoring Technology